

Titles of Most Frequently Occurring Classifications of Patents Returned  
From A Search of 09410896 on April 25, 2001

- 19 156/345 (6 OR, 13 XR)  
Class 156 : ADHESIVE BONDING AND MISCELLANEOUS CHEMICAL  
MANUFACTURE  
156/345 DIFFERENTIAL ETCHING APPARATUS
- 17 118/728 (3 OR, 14 XR)  
Class 118 : COATING APPARATUS  
118/715 GAS OR VAPOR DEPOSITION  
118/728 .Work support
- 15 361/234 (10 OR, 5 XR)  
Class 361 : ELECTRICITY: ELECTRICAL SYSTEMS AND DEVICES  
  
361/230 ELECTRIC CHARGE GENERATING OR CONDUCTING MEANS  
(E.G., CHARGING OF GASES)  
361/233 .Use of forces of electric charge or field  
361/234 ..Pinning
- 14 118/725 (1 OR, 13 XR)  
Class 118 : COATING APPARATUS  
118/715 GAS OR VAPOR DEPOSITION  
118/722 .With treating means (e.g., jarring)  
118/724 ..By means to heat or cool  
118/725 ...Substrate heater
- 11 118/715 (6 OR, 5 XR)  
Class 118 : COATING APPARATUS  
118/715 GAS OR VAPOR DEPOSITION
- 8 118/723E (1 OR, 7 XR)  
Class 118 : COATING APPARATUS  
118/715 GAS OR VAPOR DEPOSITION  
118/722 .With treating means (e.g., jarring)  
118/723R ..By creating electric field (e.g., gas  
activation, plasma, etc.)  
118/723E ...Having glow discharge electrodes (e.g., DC,  
AC, RF, etc.)
- 8 204/192.12 (7 OR, 1 XR)  
Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY  
204/192.1 .Coating, forming or etching by sputtering

- 204/192.12 ..Glow discharge sputter deposition (e.g., cathode sputtering, etc.)
- 8 279/128 (0 OR, 8 XR)  
 Class 279 : CHUCKS OR SOCKETS  
 279/128 WITH MAGNETIC OR ELECTROSTATIC MEANS
- 7 118/724 (0 OR, 7 XR)  
 Class 118 : COATING APPARATUS  
 118/715 GAS OR VAPOR DEPOSITION  
 118/722 .With treating means (e.g., jarring)  
 118/724 ..By means to heat or cool
- 6 118/500 (2 OR, 4 XR)  
 Class 118 : COATING APPARATUS  
 118/500 WORK HOLDERS, OR HANDLING DEVICES
- 6 204/298.2 (2 OR, 4 XR)  
 Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY  
 204/193 APPARATUS  
 204/298.01 .Coating, forming or etching by sputtering  
 204/298.02 ..Coating  
 204/298.16 ...Magnetically enhanced  
 204/298.17 ....Flux passes through target surface  
 204/298.19 .....Planar magnetron  
 204/298.2 .....Moving magnetic field or target
- 6 216/67 (1 OR, 5 XR)  
 Class 216 : ETCHING A SUBSTRATE: PROCESSES  
 216/58 GAS PHASE ETCHING OF SUBSTRATE  
 216/63 .Application of energy to the gaseous etchant  
 or to the substrate being etched  
 216/67 ..Using plasma
- 5 118/719 (1 OR, 4 XR)  
 Class 118 : COATING APPARATUS  
 118/715 GAS OR VAPOR DEPOSITION  
 118/719 .Multizone chamber
- 5 118/729 (0 OR, 5 XR)  
 Class 118 : COATING APPARATUS  
 118/715 GAS OR VAPOR DEPOSITION  
 118/728 .Work support  
 118/729 ..Moving work support

5 118/730 (2 OR, 3 XR)

Class 118 : COATING APPARATUS

118/715 GAS OR VAPOR DEPOSITION

118/728 .Work support

118/729 ..Moving work support

118/730 ...Rotary

5 134/1.1 (1 OR, 4 XR)

Class 134 : CLEANING AND LIQUID CONTACT WITH SOLIDS

134/1 .Including application of electrical radiant or  
wave energy to work

134/1.1 ..Plasma cleaning

5 204/298.09 (2 OR, 3 XR)

Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY

204/193 APPARATUS

204/298.01 .Coating, forming or etching by sputtering

204/298.02 ..Coating

204/298.09 ...Specified cooling or heating

4 118/723R (2 OR, 2 XR)

Class 118 : COATING APPARATUS

118/715 GAS OR VAPOR DEPOSITION

118/722 .With treating means (e.g., jarring)

118/723R ..By creating electric field (e.g., gas  
activation, plasma, etc.)

4 165/80.1 (2 OR, 2 XR)

Class 165 : HEAT EXCHANGE

165/80.1 WITH RETAINER FOR REMOVABLE ARTICLE

4 204/298.12 (0 OR, 4 XR)

Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY

204/193 APPARATUS

204/298.01 .Coating, forming or etching by sputtering

204/298.02 ..Coating

204/298.12 ...Specified target particulars

4 204/298.19 (0 OR, 4 XR)

Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY

204/193 APPARATUS

204/298.01 .Coating, forming or etching by sputtering

204/298.02 ..Coating

204/298.16 ...Magnetically enhanced

204/298.17 ....Flux passes through target surface

204/298.19 .....Planar magnetron

4 204/298.25 (0 OR, 4 XR)

Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY

204/193 APPARATUS

204/298.01 .Coating, forming or etching by sputtering

204/298.02 ..Coating

204/298.23 ...Moving workpiece or target

204/298.25 ....Multi-chamber (e.g., including air lock,  
load/unload chamber, etc.)

4 216/72 (1 OR, 3 XR)

Class 216 : ETCHING A SUBSTRATE: PROCESSES

216/58 GAS PHASE ETCHING OF SUBSTRATE

216/72 .Etching a multiple layered substrate where the  
etching condition used produces a different etching rate or  
characteristic between at least two of the layers of the  
substrate

4 219/390 (1 OR, 3 XR)

Class 219 : ELECTRIC HEATING

219/260 .Resistive element: igniter type

219/385 .Combined with container, enclosure, or support  
for material to be heated

219/390 ..Muffle-type enclosure

4 219/405 (2 OR, 2 XR)

Class 219 : ELECTRIC HEATING

219/260 .Resistive element: igniter type

219/385 .Combined with container, enclosure, or support  
for material to be heated

219/391 ..Oven type

219/402 ...With casing or support for heating unit or  
units

219/405 ....Including heat energy reflecting or  
directing means

4 219/411 (0 OR, 4 XR)

Class 219 : ELECTRIC HEATING

219/260 .Resistive element: igniter type

219/385 .Combined with container, enclosure, or support  
for material to be heated

219/391 ..Oven type

219/409 ...With heating unit structure or composition

219/411 ....With infrared generating means

4 250/442.11 (0 OR, 4 XR)

Class 250 : RADIANT ENERGY

250/306 INSPECTION OF SOLIDS OR LIQUIDS BY CHARGED PARTICLES

250/440.11 .Analyte supports

250/442.11 ..With object moving or positioning means

4 438/723 (0 OR, 4 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/689 CHEMICAL ETCHING

438/706 .Vapor phase etching (i.e., dry etching)

438/707 ..Utilizing electromagnetic or wave energy

438/710 ...By creating electric field (e.g., plasma, glow discharge, etc.)

438/723 ....Silicon oxide or glass

4 438/738 (1 OR, 3 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/689 CHEMICAL ETCHING

438/706 .Vapor phase etching (i.e., dry etching)

438/735 ..Differential etching of semiconductor substrate

438/737 ...Substrate possessing multiple layers

438/738 ....Selectively etching substrate possessing multiple layers of differing etch characteristics

4 438/743 (0 OR, 4 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/689 CHEMICAL ETCHING

438/706 .Vapor phase etching (i.e., dry etching)

438/735 ..Differential etching of semiconductor substrate

438/737 ...Substrate possessing multiple layers

438/743 ....Silicon oxide or glass

3 118/723I (0 OR, 3 XR)

Class 118 : COATING APPARATUS

118/715 GAS OR VAPOR DEPOSITION

118/722 .With treating means (e.g., jarring)

118/723R ..By creating electric field (e.g., gas

- activation, plasma, etc.)
  - 118/723I      ...Radio frequency antenna or radio frequency inductive coil discharge means
- 3 118/726      (2 OR, 1 XR)
  - Class 118 : COATING APPARATUS
  - 118/715      GAS OR VAPOR DEPOSITION
  - 118/726      ..Crucible or evaporator structure
- 3 204/298.07    (1 OR, 2 XR)
  - Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
  - 204/193      APPARATUS
  - 204/298.01    ..Coating, forming or etching by sputtering
  - 204/298.02    ..Coating
  - 204/298.07    ...Specified gas feed or withdrawal
- 3 204/298.11    (0 OR, 3 XR)
  - Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
  - 204/193      APPARATUS
  - 204/298.01    ..Coating, forming or etching by sputtering
  - 204/298.02    ..Coating
  - 204/298.11    ...Specified mask, shield or shutter
- 3 204/298.31    (1 OR, 2 XR)
  - Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
  - 204/193      APPARATUS
  - 204/298.01    ..Coating, forming or etching by sputtering
  - 204/298.31    ..Etching
- 3 216/68      (1 OR, 2 XR)
  - Class 216 : ETCHING A SUBSTRATE: PROCESSES
  - 216/58      GAS PHASE ETCHING OF SUBSTRATE
  - 216/63      ..Application of energy to the gaseous etchant or to the substrate being etched
  - 216/67      ..Using plasma
  - 216/68      ...Using coil to generate the plasma
- 3 250/492.21    (3 OR, 0 XR)
  - Class 250 : RADIANT ENERGY
  - 250/492.1    IRRADIATION OF OBJECTS OR MATERIAL
  - 250/492.2    ..Irradiation of semiconductor devices
  - 250/492.21    ..Ion bombardment
- 3 392/416      (0 OR, 3 XR)
  - Class 392 : ELECTRIC RESISTANCE HEATING DEVICES

- 392/407 .Radiant heater
  - 392/416 ..With chamber
- 3 392/418 (1 OR, 2 XR)
- Class 392 : ELECTRIC RESISTANCE HEATING DEVICES
- 392/407 .Radiant heater
  - 392/418 ..With support for workpiece
- 3 427/596 (1 OR, 2 XR)
- Class 427 : COATING PROCESSES
- 427/457 DIRECT APPLICATION OF ELECTRICAL, MAGNETIC, WAVE, OR PARTICULATE ENERGY
  - 427/595 .Electromagnetic or particulate radiation utilized (e.g., IR, UV, X-ray, gamma ray, actinic, microwave, radio wave, atomic particle; i.e., alpha ray, beta ray, electron, etc.)
  - 427/596 ..Laser or electron beam (e.g., heat source, etc.)
- 2 29/458 (1 OR, 1 XR)
- Class 029 : METAL WORKING
- 29/592 METHOD OF MECHANICAL MANUFACTURE
  - 29/428 .Assembling or joining
  - 29/458 ..With coating before or during assembling
- 2 165/80.2 (1 OR, 1 XR)
- Class 165 : HEAT EXCHANGE
- 165/80.1 WITH RETAINER FOR REMOVABLE ARTICLE
  - 165/80.2 .Electrical component
- 2 204/192.13 (0 OR, 2 XR)
- Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
- 204/192.1 .Coating, forming or etching by sputtering
  - 204/192.12 ..Glow discharge sputter deposition (e.g., cathode sputtering, etc.)
  - 204/192.13 ...Measuring or testing (e.g., of operating parameters, property of article, etc.)
- 2 204/192.32 (0 OR, 2 XR)
- Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
- 204/192.1 .Coating, forming or etching by sputtering
  - 204/192.32 ..Sputter etching
- 2 204/298.03 (0 OR, 2 XR)
- Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY

- 204/193 APPARATUS
  - 204/298.01 .Coating, forming or etching by sputtering
  - 204/298.02 ..Coating
  - 204/298.03 ...Measuring, analyzing or testing
- 2 204/298.08 (0 OR, 2 XR)
- Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
- 204/193 APPARATUS
  - 204/298.01 .Coating, forming or etching by sputtering
  - 204/298.02 ..Coating
  - 204/298.08 ...Specified power supply or matching network
- 2 204/298.18 (0 OR, 2 XR)
- Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
- 204/193 APPARATUS
  - 204/298.01 .Coating, forming or etching by sputtering
  - 204/298.02 ..Coating
  - 204/298.16 ...Magnetically enhanced
  - 204/298.17 ....Flux passes through target surface
  - 204/298.18 .....Focusing target (e.g., conical target,  
plural inclined targets, etc.)
- 2 204/298.26 (1 OR, 1 XR)
- Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
- 204/193 APPARATUS
  - 204/298.01 .Coating, forming or etching by sputtering
  - 204/298.02 ..Coating
  - 204/298.23 ...Moving workpiece or target
  - 204/298.26 ....Plural diverse treatment stations, zones,  
or coating material source within single chamber
- 2 204/298.28 (0 OR, 2 XR)
- Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
- 204/193 APPARATUS
  - 204/298.01 .Coating, forming or etching by sputtering
  - 204/298.02 ..Coating
  - 204/298.23 ...Moving workpiece or target
  - 204/298.28 ....Rotational movement
- 2 204/298.35 (0 OR, 2 XR)
- Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY
- 204/193 APPARATUS
  - 204/298.01 .Coating, forming or etching by sputtering
  - 204/298.31 ..Etching



- 204/298.35 ...Multi-chamber, load/unload means or moving  
workpiece
- 2 204/298.37 (0 OR, 2 XR)  
Class 204 : CHEMISTRY: ELECTRICAL AND WAVE ENERGY  
204/193 APPARATUS  
204/298.01 .Coating, forming or etching by sputtering  
204/298.31 ..Etching  
204/298.37 ...Magnetically enhanced
- 2 216/79 (0 OR, 2 XR)  
Class 216 : ETCHING A SUBSTRATE: PROCESSES  
216/58 GAS PHASE ETCHING OF SUBSTRATE  
216/74 .Etching inorganic substrate  
216/79 ..Etching silicon containing substrate
- 2 269/903 (0 OR, 2 XR)  
Class 269 : WORK HOLDERS  
269/903 WORK HOLDER FOR ELECTRICAL CIRCUIT ASSEMBLAGES  
OR WIRING SYSTEMS
- 2 315/111.21 (1 OR, 1 XR)  
Class 315 : ELECTRIC LAMP AND DISCHARGE DEVICES: SYSTEMS  
  
315/111.01 DISCHARGE DEVICE LOAD WITH FLUENT MATERIAL  
SUPPLY TO THE DISCHARGE SPACE  
315/111.21 .Plasma generating
- 2 361/230 (0 OR, 2 XR)  
Class 361 : ELECTRICITY: ELECTRICAL SYSTEMS AND DEVICES  
  
361/230 ELECTRIC CHARGE GENERATING OR CONDUCTING MEANS  
(E.G., CHARGING OF GASES)
- 2 392/390 (0 OR, 2 XR)  
Class 392 : ELECTRIC RESISTANCE HEATING DEVICES  
392/386 .Vaporizer  
392/390 ..With disposable evaporant cartridge or  
container
- 2 414/217 (1 OR, 1 XR)  
Class 414 : MATERIAL OR ARTICLE HANDLING  
414/217 APPARATUS FOR MOVING MATERIAL BETWEEN ZONES  
HAVING DIFFERENT PRESSURES AND INHIBITING CHANGE IN  
PRESSURE GRADIENT THEREBETWEEN

2 428/306.6 (0 OR, 2 XR)

Class 428 : STOCK MATERIAL OR MISCELLANEOUS ARTICLES

428/221 WEB OR SHEET CONTAINING STRUCTURALLY DEFINED  
ELEMENT OR COMPONENT

428/304.4 .Composite having voids in a component (e.g.,  
porous, cellular, etc.)

428/306.6 ..Void-containing component partially  
impregnated with adjacent component

2 428/307.3 (0 OR, 2 XR)

Class 428 : STOCK MATERIAL OR MISCELLANEOUS ARTICLES

428/221 WEB OR SHEET CONTAINING STRUCTURALLY DEFINED  
ELEMENT OR COMPONENT

428/304.4 .Composite having voids in a component (e.g.,  
porous, cellular, etc.)

428/306.6 ..Void-containing component partially  
impregnated with adjacent component

428/307.3 ...Void-containing component is inorganic

2 428/463 (2 OR, 0 XR)

Class 428 : STOCK MATERIAL OR MISCELLANEOUS ARTICLES

428/411.1 COMPOSITE (NONSTRUCTURAL LAMINATE)

428/457 .Of metal

428/461 ..Next to addition polymer from unsaturated  
monomers

428/463 ...Ester, halide or nitrile of addition polymer

2 428/469 (0 OR, 2 XR)

Class 428 : STOCK MATERIAL OR MISCELLANEOUS ARTICLES

428/411.1 COMPOSITE (NONSTRUCTURAL LAMINATE)

428/457 .Of metal

428/469 ..Next to metal salt or oxide

2 428/472 (0 OR, 2 XR)

Class 428 : STOCK MATERIAL OR MISCELLANEOUS ARTICLES

428/411.1 COMPOSITE (NONSTRUCTURAL LAMINATE)

428/457 .Of metal

428/469 ..Next to metal salt or oxide

428/472 ...Refractory metal salt or oxide

2 438/149 (2 OR, 0 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142 MAKING FIELD EFFECT DEVICE HAVING PAIR OF

ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY  
FORMATION OR

438/149      ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS  
                 .On insulating substrate or layer (e.g., TFT,  
                 etc.)

2 438/166      (0 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/142      MAKING FIELD EFFECT DEVICE HAVING PAIR OF  
ACTIVE REGIONS SEPARATED BY GATE STRUCTURE BY  
FORMATION OR

438/149      ALTERATION OF SEMICONDUCTIVE ACTIVE REGIONS  
                 .On insulating substrate or layer (e.g., TFT,  
                 etc.)

438/151      ..Having insulated gate

438/166      ...Including recrystallization step

2 438/486      (0 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/478      FORMATION OF SEMICONDUCTIVE ACTIVE REGION ON  
ANY SUBSTRATE (E.G., FLUID GROWTH, DEPOSITION)

438/482      ..Amorphous semiconductor

438/486      ..And subsequent crystallization

2 438/660      (1 OR, 1 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/584      COATING WITH ELECTRICALLY OR THERMALLY  
CONDUCTIVE MATERIAL

438/597      .To form ohmic contact to semiconductive  
material

438/660      ..Including heat treatment of conductive layer

2 438/905      (0 OR, 2 XR)

Class 438 : SEMICONDUCTOR DEVICE MANUFACTURING: PROCESS

438/905      CLEANING OF REACTION CHAMBER